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DRAFT PROPOSED PLAN AND DRAFT MODIFICATION OF THE COLORADO HAZARDOUS WASTE PERMIT FOR THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE OPERABLE UNIT 15: INSIDE BUILDING CLOSURES

United States Department of Energy (DOE) | Jefferson County, Colorado | April 7, 1995

DOE Announces the Preferred Alternative to Address OU15, Inside Building Closures

The responsibility for cleanup of the Rocky Flats Environmental Technology Site (RFETS) (formerly known as the Rocky Flats Plant) has been assigned to the United States Department of Energy (DOE). The site is located north of Golden, Colorado in Jefferson County.

Cleanup at RFETS is being administered under both the *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*[1] and the *Resource Conservation and Recovery Act (RCRA)*. The specific requirements and responsibilities for RFETS cleanup are outlined in the *Interagency Agreement (IAG)* between DOE, the United States Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE).

The subject of this document, which is a combination Proposed Plan and Draft Hazardous Waste Permit Modification, is RFETS *Operable Unit* 15 (OU15), Inside Building Closures. OU15 is composed of *Individual Hazardous Substance Sites (IHSSs)* 178, 179, 180, 204, 211 and 217. These IHSSs are small areas or facilities that were historically used to store or treat hazardous wastes, and are located within large buildings at RFETS.

The purpose of the Proposed Plan is to announce DOE's *preferred alternative* for OU15. The Proposed Plan serves as the basis for the *Record of Decision (ROD)* for OU15. The Draft Permit Modification is used to incorporate remedial action decisions at RFETS into the site's RCRA Permit. CDPHE issues the Final Hazardous Waste Permit Modification once the remedial decision process is completed. The gray-shaded information boxes included throughout the document are provided to assist the public in their review and address some of the key items covered in the document.

[1] Words shown in *italics* on the first mention are defined in the glossary at the end of this Proposed Plan.

What is a Proposed Plan?

The CERCLA process for site cleanup is composed of a series of steps that begin with a preliminary assessment of a site (or operable unit) and end with cleanup and closure of the site. One of the intermediate steps in this sequence is the preparation of a Proposed Plan. The objective of the Proposed Plan is to provide an opportunity for public participation in the cleanup process. The public is invited to comment on the results of the investigations and studies completed, and on the preferred alternative proposed to address the site. Responses to public comments are later provided with the Record of Decision, which documents the remedial plan chosen for the site. This Proposed Plan applies only to Operable Unit 15, Inside Building Closures.

The preferred alternative proposed in this plan for OU15 consists of the following actions: 1) Clean Closure under RCRA for all six of the OU15 IHSSs; 2) a No Action decision for IHSSs 178, 211, and 217; and 3) a deferral of any actions at IHSSs 179, 180, and 204 until final disposition of their respective buildings. Clean closure under RCRA can be achieved since sampling results from all of the six OU15 IHSSs showed compliance with the clean closure requirements of the Colorado Hazardous Waste Permit for RFETS.

The results of investigations performed at the six OU15 IHSSs have shown that no remedial actions are required to protect human health and the environment at IHSSs 178, 179, 180, 211, and 217 under their current land use.

At IHSS 204, no remedial actions are required to protect human health and the environment as long as the RFETS radiological control program as it exists continues to be implemented. There have been no documented releases outside the OU15 IHSSs, and the IHSSs are maintained in a protective state for the individuals who work in and around them through the implementation of the RFETS radiological control program.

This Proposed Plan covers:

REVIEWED FOR CLASSIFICATION/UCNI
By Maryll. Jaza UNK
Date 4-7-95

In accordance with the IAG and EPA guidance, a No Action decision is appropriate for a site or operable unit that is already in a ***protective state***. IHSSs 178, 211, and 217 are located within Building 881 at RFETS, and are not in areas requiring postings or controls under the RFETS radiological control program for worker protection. Therefore, a No Action decision is appropriate for these IHSSs, since they do not require any actions or controls in order to be maintained in a protective state.

IHSSs 179 and 180 are relatively small areas located within larger radiological control areas. Neither IHSS 179 nor IHSS 180 require specific postings or controls, since they are not the source area for which the control areas were created. IHSS 204 is posted specifically as a Radiation Area, and requires the protective measures of the radiological control program in order to remain in a protective state. While the radiological control program is in effect, these IHSSs require no further action in order to remain in a protective state. The radiological control program will remain in effect for these IHSSs until final disposition of their respective buildings. Therefore, no actions will be taken at these IHSSs until final building disposition. Any actions required to maintain protection of human health and the environment following final building disposition will be deferred until that time.

PUBLIC INVOLVEMENT PROCESS

A public comment period will be held for the Proposed Plan and Draft Permit Modification. The public is also encouraged to comment on the Final Phase I ***RCRA Facility Investigation/Remedial Investigation (RFI/RI)*** Report, which presents the results of the investigation conducted for OU15.

This public comment period will be from ____ to ____ . A public hearing will be held on _____ . Comments on the Proposed Plan and Draft Permit Modification and the Final Phase I RFI/RI Report may be submitted orally or in writing at the public hearing. Alternatively, written comments, postmarked no later than _____, can be sent to either of the addressees listed below.

Upon timely request, the comment period may be extended. Such a request should be submitted in writing to DOE, postmarked no later than _____. FAILURE TO RAISE AN ISSUE OR PROVIDE INFORMATION DURING THE PUBLIC COMMENT PERIOD MAY PREVENT YOU FROM RAISING THAT ISSUE OR SUBMITTING SUCH INFORMATION IN AN APPEAL OF THE AGENCIES' FINAL DECISION.

MARK YOUR CALENDAR: OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Public Comment Period:

Public Hearing:

Location:

Time:

Send Comments To:
DOE's External Affairs Office
P.O. Box 928, Golden, CO 80402-0928

W. Carl Spreng, Geologist
ph: (303) 692-3358
Colorado Department of Public
Health and Environment/HMWMD-HWC-B2
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Information Repositories

The Proposed Plan, the RFI/RI Report and other documents are available at information repositories at the following locations:

Rocky Flats Public Reading Room
Front Range Community College
Level B
3645 W. 112th Avenue
Westminster, CO 80030

Colorado Department of Public
Health and Environment
Hazardous Materials and Waste
Management Division - Bldg. B2
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Citizens Advisory Board
9035 N. Wadsworth Parkway
Suite 2250
Westminster, CO 80021

Standley Lake Library
8485 Kipling Street
Arvada, CO 80005

U.S. Environmental Protection Agency
Superfund Documents Center
5th Floor
999 18th Street
Denver, CO 80202-2405

SITE BACKGROUND

RFETS is located in northern Jefferson County, Colorado (Figure 1). RFETS occupies approximately 6,550 acres of Federal land, and is a government-owned and contractor-operated facility that is part of the nationwide nuclear weapons production complex. DOE's primary mission at RFETS was formerly to produce metal components for nuclear weapons from plutonium, uranium and non-radioactive metals. Its current mission is to manage wastes and materials, and to cleanup and convert the Rocky Flats site to beneficial use in a manner that is safe, environmentally and socially responsible, physically secure, and cost-effective.

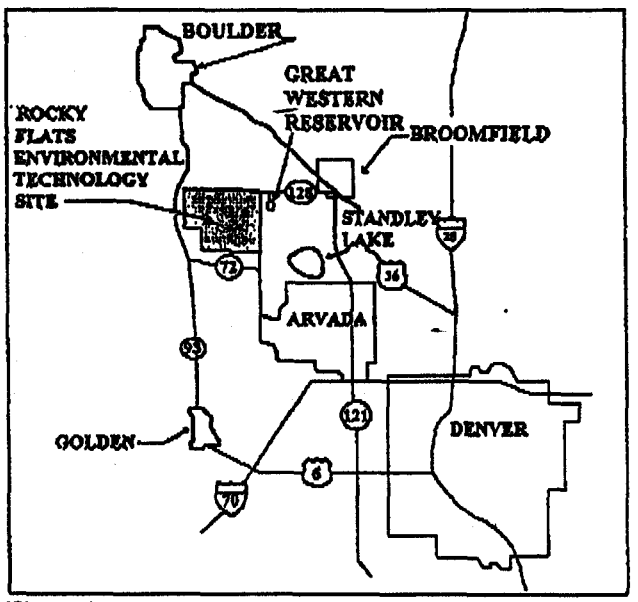

Figure 1
Rocky Flats Environmental Technology Site and Vicinity

Historical waste handling practices involved on-site storage, treatment, and disposal of hazardous, *low-level radioactive*, and *mixed wastes*. Most plant structures are located within the Rocky Flats Industrial Area, which occupies approximately 400 acres. This area is surrounded by a buffer zone of approximately 6,150 acres. IHSSs within RFETS were defined and grouped into sixteen operable units (OUs). The Inside Building Closures, OU15, consists of six IHSSs, and is the subject of this Proposed Plan.

OU15 was originally composed of eight IHSSs; however, IHSSs 212 and 215 are no longer included as part of the OU. The closure of IHSS 212 is now addressed in Part VIII of the RFETS RCRA Mixed Residue Permit Modification. IHSS 215 was transferred to Operable Unit 9 (OU9) and has already been included in the Phase I RFI/RI for OU9. The six remaining OU15 IHSSs are:

IHSS 178 - Building 881, Drum Storage Area (Room 165);
IHSS 179 - Building 865, Drum Storage Area (Room 145);
IHSS 180 - Building 883, Drum Storage Area (Room 104);
IHSS 204 - Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502);
IHSS 211 - Building 881, RCRA Unit 26, Drum Storage Area (Room 266B); and
IHSS 217 - Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C).

The following is a summary of the physical description and operational history of each hazardous substance site:

IHSS 178, Building 881, Drum Storage Area (Room 165). IHSS 178, which has a maximum storage capacity of five 55-gallon drums, was first used in 1953 when Building 881 operations began. The IHSS area consists of two painted circles, each approximately four feet in diameter. The drums stored in the IHSS contained wastes contaminated with solvents and possibly low-level radioactivity. Routine visual monitoring was conducted during the period of operation.

IHSS 179, Building 865, Drum Storage Area (Room 145). IHSS 179, which has a maximum storage capacity of ten 55-gallon drums, was first used for drum storage in 1970. The dimensions of the IHSS are approximately 8 feet by 12 feet. Drums stored in the IHSS contained oils, chlorinated solvents, low-level radioactive waste and possibly beryllium. The IHSS was monitored routinely for spills and releases.

IHSS 180, Building 883, Drum Storage Area (Room 104). IHSS 180, which has a maximum storage capacity of thirty 55-gallon drums, measures 10 feet by 16 feet, and was first used for drum storage in 1981. Drums stored in the IHSS contained oils contaminated with solvents, uranium and beryllium. Visual monitoring of the storage area was conducted periodically.

IHSS 204, Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502). IHSS 204, the Original Uranium Chip Roaster, was used historically to oxidize uranium chips coated with small amounts of oils and coolants, converting the elemental uranium to uranium oxide. The unit is cylindrical with a diameter of 5 feet 6 inches and a height of 7 feet 4 inches. The inlet for the unit is located in Room 502, and the outlet is located directly downstairs in Room 32. No hazardous constituents have been treated in this unit since January 1988, when the uranium chips processed in the unit ceased to be coated with oils and coolants.

IHSS 211, Building 881, RCRA Unit 26, Drum Storage Area (Room 266B). IHSS 211, which has a maximum storage capacity of twenty-nine 55-gallon drums, was first used as a drum storage area in 1981. The dimensions of the IHSS are approximately 10 feet by 20 feet. The wastes stored in the unit have historically included low-level radioactive combustibles (rags, wipes, etc.), metals, glass, and materials which contained solvents and/or metals generated by laboratories in the building.

IHSS 217, Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C). IHSS 217 consists of a 4 feet by 5 feet painted metal fume hood and laboratory table, three

4-liter polyethylene bottles, a glass beaker, and a chlorine-specific ion electrode. The unit was used as a bench scale treatment process to convert cyanide to cyanate. Aqueous cyanide solutions were transferred to the unit for analysis of cyanide content using a cyanide still. Wastes generated from this analysis were collected in the three 4-liter polyethylene bottles and stored in the steel fume hood of the unit. The cyanide solution was treated in one of the 4-liter bottles and then transferred via the process waste line system to the central liquid waste treatment facility in Building 374 for further treatment.

SUMMARY OF SITE RISKS

The *risks* to human health and the environment associated with the OU15 IHSSs were characterized as part of the OU15 RFI/RI, which was completed in accordance with the requirements presented in the IAG and specifically identified in the Final Phase I RFI/RI Work Plan for OU15. The RFI/RI focused on two primary objectives: first, characterizing the nature and extent of contamination associated with the IHSSs inside the buildings; and second evaluating the potential for contaminant migration outside of the buildings. For each IHSS, the investigations involved reviewing historical information, conducting visual inspections, and completing sampling and analyses for surface contamination. A detailed discussion of the methods and results is presented in the Final Phase I RFI/RI Report.

In order to determine if releases to the environment had occurred from the OU15 IHSSs, historical information on waste management practices in the IHSSs was reviewed, and visual inspections of each IHSS were completed. These inspections focused on identifying evidence of spills or releases and assessing if potential routes existed for the migration of contaminants from the IHSSs to outdoor areas.

Samples were also collected in and around each IHSS and analyzed to characterize the presence or absence of hazardous and radiological constituents associated with the IHSSs. To evaluate risks to workers inside the buildings, the results of the sampling and analysis were compared to a set of protective standards approved as ***Applicable or Relevant and Appropriate Requirements (ARARs)*** in the Final Phase I RFI/RI Work Plan for OU15.

What are ARARs?

The most important elements in determining the need for remedial action at a CERCLA site (or operable unit) are the overall protection of human health and the environment, and compliance with the Applicable or Relevant and Appropriate Requirements (ARARs) selected for the site. ARARs represent a set of protective cleanup standards for the site. Applicable requirements are mandated by State or Federal law, and specifically address factors such as contaminants and remedial actions. Relevant and appropriate requirements, while not legally applicable, address problems or situations that are similar to those at the site.

For OU15, ARARs were identified for both hazardous constituents (e.g., spent solvents, metals) and radionuclides. The ARARs used to evaluate hazardous constituents were the RCRA clean closure performance standards (6 CCR 1007-3, Section 265.111), which specify that the IHSSs must be closed in a manner that protects human health and the environment. The standards were satisfied when analytical results from the samples collected at each IHSS exhibited no traces of hazardous constituents historically managed in the IHSS.

The ARARs established for radionuclides at OU15 focused on the protection of workers in the IHSS areas, and were based on Occupational Safety and Health Act standards for ionizing radiation. The specific standards are listed in the Code of Federal Regulations (CFR) and DOE orders, and are presented below:

10 CFR 20, App. B: Protection against radiation;

10 CFR 835: Occupational radiation protection;

29 CFR 1910.96: Ionizing radiation;

DOE Order 5400.5: Radiation protection of the public and the environment (will eventually be replaced by 10 CFR 834); and

DOE Order 5480.11: Radiation protection for occupational workers (to be replaced by 10 CFR 835, effective January 1, 1996).

Two additional standards being developed will also apply to OU15, and are listed below:

10 CFR 834: Radiation protection of the public and the environment; and

40 CFR 196: Radiation site cleanup regulations.